

# Prednosti korištenja terapijskih pasa u terapiji i dijagnostici kod pacijenata s psihosocijalnim zdravstvenim teškoćama

## */ Benefits of Therapy Dogs in Therapy and Diagnostics of Patients with Psychosocial and Health Difficulties*

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Iako je korištenje pasa u terapijske svrhe u mnogim ustanovama već prihvaćena praksa, sustavna istraživanja ove teme su relativno noviji fenomen. U zadnjih petnaestak godina došlo je do povećanog interesa za validacijom ove prakse pa tako i do porasta broja istraživanja koja se bave tom temom. U ovom radu pokušali smo dati pregled istraživanja koja se bave prednostima korištenja terapijskih pasa u terapiji i dijagnostici, pogotovo u terapijskom radu s djecom, te smo predstavili neke teorijske okvire kao i biološku podlogu, u prvom redu utjecaj oksitocina, koji bi mogli objasniti te učinke.

*/ Even though the use of dogs in therapy is already an accepted practice in many institutions, systematic research on this topic is a relatively recent phenomenon. Over the last fifteen years there has been an increased interest in validating this practice, as well as an increase in the number of studies about this topic. In this paper we have attempted to give an overview of the research into the benefits of using therapy dogs in therapy and diagnostics, especially in therapeutic work with children, and we have presented some theoretical frameworks and biological background, mainly the effect of oxytocin, that could explain these effects.*

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Terapija uz pomoć životinja (engl. *animal assisted therapy* - AAT) odnosi se na inkorporaciju trenirane terapijske životinje u terapijsku intervenciju. Potrebno je razlikovati terapijske životinje od životinja pomagača. Životinje pomagači su posebno trenirane za pomoć osobama sa specifičnim teškoćama (npr. psi vodiči za slijepe i slabovidne osobe, psi pomagači za autizam...) te žive s tim osobama i pomažu im u svakodnevnom životu. Terapijske životinje koristi stručna osoba (npr. psiholog ili psihijatar) osposobljena za rad sa životinjama posebno treniranima za ovu svrhu u okviru svoje prakse, pri čemu terapijske životinje nisu zamjena za terapiju već njen dodatak (1,2). Jedna od prednosti ove vrste terapije je to da ima jedinstvene karakteristike koje olakšavaju dostizanje terapijskih ciljeva, pogotovo u radu s djecom. Terapijske životinje mogu poslužiti kao „most“ između djeteta i terapeuta, olakšavajući uspostavljanje kontakta i socijalne interakcije, one pružaju djetetu osjećaj sigurnosti u terapijskom okruženju i ohrabruju spontano ponašanje i komunikaciju. Djeca su često otvorenija u kontaktu s terapijskim životinjama jer nemaju osjećaj da ih one osuđuju, a kontakt s terapijskim životinjama može dovesti i do povećanja samopouzdanja i empatije kod djeteta (3).

Terapija uz pomoć životinja može također dovesti do drugih brojnih pozitivnih ishoda za dobrobit djeteta, uključujući smanjeni osjećaj usamljenosti, osjećaj povećane tjelesne i psihičke dobrobiti, smanjenu potrebu za lijekovima, poboljšanu kvalitetu života, poboljšano fiziološko funkcioniranje, smanjenje stresa i anksioznosti te pojačanu motivaciju (4). Kod hospitalizirane djece, djeca koja su sudjelovala u terapiji sa psima imala su više procjene raspoloženja od strane roditelja te su pokazivala veći pozitivni afekt od djece koja su sudjelovala u terapiji igrom (5).

Različita istraživanja su pokazala da terapijski psi uspješno dovode do smanjenja stresa i

Animal assisted therapy (AAT) is a therapeutic intervention which incorporates trained therapy animals. Assistance animals are specially trained to help people with special needs (e.g. the blind, the autistic, etc.) by living with these people and assisting them in their everyday life. Therapy animals are used by a professional (e.g. a psychologist or a psychiatrist) educated to conduct their practice using trained animals. Therapy animals are not a therapy replacement, but an addition (1,2). One of the benefits of this kind of therapy is that it has unique characteristics which facilitate reaching therapy goals, especially when working with children. Therapy animals can be used as a “bridge” between the child and the therapist, facilitating contact and social interaction. These animals provide the child with a feeling of safety in the therapeutic environment and encourage spontaneous behaviours and communication. Children are often more open with therapy animals because they do not feel these animals are judgemental. Contact with therapy animals can lead to increased self-confidence and empathy in the child (3).

Animal-assisted therapy can also lead to many other positive outcomes benefiting the child, including a reduced feeling of loneliness, a feeling of increased physical and psychological welfare, a decreased need for medication, an improved quality of life and physiological functioning. It can reduce stress and anxiety and increase motivation (4). Parents rated their hospitalised children who participated in dog-assisted therapy as having been in a better mood and these children showed a higher positive affectivity than children who participated in play therapy (5).

Various studies have shown that therapy dogs successfully led to reducing stress and anxiety in children in the context of a hospital (6), a medical check-up (7) and a school (8). Apart

anksioznosti kod djece u različitim situacijama kao što su bolnice (6), sistematski pregledi (7) i škola (8). Osim smanjenja stresa i anksioznosti, prisustvo psa u terapiji dovodi do povećane socijalne interakcije u različitim kontekstima (na primjer, prema životinjama, drugim pacijentima, terapeutu, obitelji, susjedima itd.) i uključuje različite vrste ponašanja kao što su razgovori, usmjeravanje na ljude, dodiri i različite aktivnosti, što je posebno korisno kod populacija koje inače imaju siromašnije socijalne kapacitete kao što su stariji ljudi s Alzheimerovom bolesti ili shizofrenijom ili djeca s Downovim sindromom ili autizmom (1, 9).

Prothmann, Bienert i Ettrich (10) su pokazali da djeca i adolescenti koji su uz psihoterapiju bili uključeni i u terapiju uz pomoć životinje (terapijskog psa) postižu značajno više rezultate na ljestvicama vitalnosti, unutarnje emocionalne ravnoteže, socijalne ekstraverzije i budnosti. Autori su zaključili da psi stvaraju okruženje topline, prihvatanja, sigurnosti i empatije koja pogoduje učinkovitijem tretmanu za mlade. Pri tome se čini da uključivanje terapijskog psa u psihoterapijski rad s djecom i adolescentima olakšava djelovanje terapijskih mehanizama i ubrzava njihov oporavak.

Kako je poznato da prisustvo životinje utječe na percepciju okoline kao sigurne te istovremeno facilitira razgovor, korištenje pasa u terapiji je pogotovo korisno kod populacija klijenata koje ne dolaze redovito ili odustaju od terapija. Istraživanja su pokazala da prisustvo psa u grupnim terapijama smanjuje odustajanje od terapije i povećava razinu sudjelovanja kod članova grupe. (11).

## Trauma i zlostavljanje

Terapijski psi su se pokazali posebno uspješni kada su korišteni u grupnim tretmanima seksualno zlostavljane djece. Djeca u grupama s terapijskim psima pokazala su značajno smanjenje simptoma traume kao što su anksi-

from stress and anxiety reduction, the presence of therapy dogs leads to increased social interaction in various contexts (e.g. towards animals, other patients, their therapist, family, neighbours, etc.) and it includes various types of behaviours like verbally interacting with others, focusing on other people, touching them and other activities especially useful for populations with poorer social capacities, like the elderly suffering from Alzheimer disease or schizophrenia, or children with Down syndrome or autism (1,9).

Prothmann, Bienert and Ettrich (10) showed that children and adolescents who, besides psychotherapy, were also included in animal-assisted therapy (therapy dogs) achieved significantly better results on the scales of vitality, internal emotional balance, social extraversion and vigilance. The authors concluded that dogs created an atmosphere of warmth, acceptance, safety and empathy, which contributed to a more effective treatment of the youth. It seems that incorporating therapy dogs in psychotherapy of children and adolescents facilitates the therapeutic mechanisms of action and accelerates patient recovery.

While it is widely recognized that the presence of animals affects the perception of the environment as safe and at the same time facilitates interaction, incorporating dogs into psychotherapy is especially useful for patients who do not come regularly or who withdraw; studies have shown that the presence of a dog in group therapy reduces withdrawals and increases the level of group members' participation (11).

## Trauma and abuse

Therapy dogs have proved to be especially useful in group treatments of sexually abused children. Children in groups with therapy dogs showed a significant reduction of trauma symptoms like anxiety, depression, anger, post-traumatic stress disorder, dissociation

oznost, depresija, ljutnja, post-traumatski stresni poremećaj, disocijacija i brige oko seksualnosti. Takvi su učinci bili najizraženiji u grupi u kojoj su terapijski psi bili intenzivnije uključeni u samu terapiju, to jest, gdje su se čitale priče napisane iz perspektive pasa koje su bile povezane s temama terapije (12).

Slični rezultati dobiveni su i u istraživanju s adolescenticama koje su bile izložene traumatskom događaju (fizičkom ili seksualnom nasilju). Adolescentice koje su sudjelovale u grupnoj terapiji koja je uključivala terapijskog psa pokazale su ubrzano smanjenje simptoma PTSP-a, te je došlo do značajnog smanjenja broja sudionika u grupi s povećanim rizikom za razvoj PTSP-a. Također, iako su adolescentice na početku tretmana pokazivale nižu razinu subjektivne dobrobiti, više depresivnih simptoma i više simptoma PTSP-a od kontrolne grupe adolescentica bez traumatskog iskustva, te razlike su do kraja intervencije postale neznačajne (13).

Osim u samoj terapiji djece s traumatskim iskustvima, prisustvo psa smanjuje stres kod djece za vrijeme provođenja forenzičkog intervjua. Djeca koja su sudjelovala u forenzičkom intervju-u zbog sumnje na seksualno zlostavljanje uz prisustvo psa imala su slabije izražene indikatore stresa (imunoglobulin A i alfa amilaza u slini te brzina otkucaja srca) od djece koja su sudjelovala u intervjuu bez prisustva psa, a taj se učinak pokazao najvećim kod starije djece i kod dužeg trajanja intervjua (14).

## Biološka podloga

U pregledu 69 istraživanja o interakcijama ljudi i pasa, uključujući interakcije s psima kućnim ljubimcima, intervencijama koje uključuju terapijske pse te interakcije s psima u laboratorijskim uvjetima, Beetz, Uvnäs-Moberg, Julius i Kotrschal (15) su utvrdili da interakcija ljudi s psima dovodi do brojnih dobro dokazanih pozitivnih ishoda kao što su: poboljšanje socijalne pažnje, ponašanja, interpersonalne interakcije i

and concerns about sexuality. Such effects were most pronounced in the group with therapy dogs incorporated more extensively into therapy, i.e. where stories written from the dogs' perspectives and related to the topics of therapy were read (12).

Similar results were obtained in the study of adolescents having been exposed to traumatic events (physical or sexual abuse). Female adolescents participating in group therapy incorporating a therapy dog showed faster reduction of PTSD symptoms, leading to a significant reduction in the number of participants in the group with an increased risk of developing PTSD. Adolescents showed a lower level of subjective welfare at the beginning, presenting with more depression and PTSD symptoms than adolescents in the control group who had not been exposed to traumatic events, but these differences became insignificant towards the end of the intervention (13).

The presence of a dog reduces stress in children not only in therapy of those exposed to traumatic experiences, but also during a forensic interview. Children who were forensically interviewed due to suspected sexual abuse showed lower stress indicators (immunoglobulin A and alpha amylase in saliva and heart rate) during the forensic interview. This effect was more significantly expressed in older children and longer interviews (14).

## Physiological basis

In their review of 69 studies about interactions between humans and dogs, including interactions with pet dogs, interventions incorporating therapy dogs and interactions with dogs in laboratory environments, Beetz, Uvnäs-Moberg, Julius and Kotrschal (15) found that interactions between humans and dogs led to many well-proven beneficial outcomes such as an improvement of social attention, behaviour, interpersonal interactions and mood, lowered

raspoloženja, sniženje pokazatelja stresa (npr. kortizola, otkucaja srca i krvnog tlaka), smanjenje straha i anksioznosti, poboljšanje mentalnog i fizičkog, te naročito kardiovaskularnog zdravlja. Također, postoji manji broj istraživanja koja pokazuju i utjecaj na poboljšanje rada imunološkog sustava, bolje podnošenje boli, povećanje povjerenja prema drugim osobama, smanjenje agresije, povećanje empatije i poboljšano učenje. Većina ovih učinaka mogla bi biti objašnjena utjecajem hormona oksitocina koji se stvara u hipotalamusu i oslobađa u krvožilni sustav i mozak kao odgovor na senzornu simulaciju kao što su, na primjer, dojenje i spolni odnos, ali i dodir, toplina i milovanje, pogotovo u kontekstu bliskog odnosa. Eksperimentalnom primjenom dokazano je da oksitocin modulira brojne fiziološke, psihološke i bihevioralne funkcije kod ljudi i životinja.

Oksitocin snažno utječe na stimulaciju socijalne interakcije te povećava kontakt očima, empatiju, povjerenje, socijalne vještine, pozitivnu percepciju sebe, velikodušnost, smanjuje depresiju, potiče majčinsko ponašanje i povezivanje s potomcima. Oksitocin također ima protustresno djelovanje, pri čemu smanjuje razinu glukosteroida (hormona stresa) kod ljudi i životinja, pogotovo kao odgovor na socijalne stresore, te povećava prag boli i ima anksiolitički učinak, pogotovo kao odgovor na socijalne prijetnje.

Istraživanja su pokazala da interakcija ljudi i pasa dovodi do povećanja razine oksitocina kod oboje, pri čemu se čini da fizički kontakt i povezanost sa psom igraju bitnu ulogu. Na primjer, Odendaal i Meintjes (16) su utvrdili da nakon 5 do 24 minute milovanja psa dolazi do značajnog rasta razine oksitocina, kao i prolaktina, feniloctene kiseline i dopamina, i kod ljudi i kod pasa, dok se razina kortizola smanjila. Handlin i suradnici (17) su pokazali da čak samo 3 minute milovanja i pričanja sa psom u laboratorijskim uvjetima dovodi do značajnog rasta razine oksitocina u krvi kod oboje.

stress indicators (e.g. cortisol, heart rate and blood pressure), less fear and anxiety, improvements in mental and physical, especially cardiovascular, health. There are also some studies which show improved functioning of the immune system, a better tolerance of pain, an increased trust in other people, reduced aggression, increased empathy and better learning. Most of these effects can be explained as the influence of oxytocin, a hormone produced in the hypothalamus and released into the vascular system and the brain as a response to sensory stimulation such as breast-feeding or sexual intercourse as well as touching, warmth and caresses, especially in the context of a close relationship. Experimental application proved that oxytocin modulates many physiological, psychological and behavioural functions in humans and animals.

Oxytocin strongly affects the stimulation of social interactions and increases eye-contact, empathy, trust, social skill, the positive perception of oneself, generosity, and it also reduces depression and encourages maternal behaviours and bonding with the offspring. Moreover, it has an anti-stress effect, reducing the level of glucocorticoid (a stress hormone) in humans and animals, especially in cases of social stressors; it increases the threshold of pain and has an anxiolytic influence, especially on social threats.

Studies show that interaction between humans and dogs leads to increased levels of oxytocin in both, with physical contact and the relationship with a dog playing an important role. For example, Odendaal and Meintjes (16) found that after 5 to 24 minutes of stroking a dog, the level of oxytocin as well as prolactin, phenylacetic acid and dopamine increased in both humans and dogs, while the level of cortisol decreased. Handlin et al. (17) showed that even three minutes of stroking and talking to a dog in a laboratory environment led to a significant increase of oxytocin in both humans and dogs.



## TEORIJSKI OKVIR

Postoji nekoliko teorija koje mogu objasniti pozitivne učinke koje interakcija sa životinjama ima na ljude. Jedna od njih je teorija privrženosti prema kojoj odnosi utječu na emocionalnu dobrobit; istraživanja su potvrdila da ljudi mogu formirati sigurno privrženi odnos s terapijskom životinjom što stvara radne modele koji su pozitivni i optimistični i tako doprinosi samopouzdanju, dobrim strategijama emocionalne regulacije, psihosocijalnom funkcioniranju i povoljnom mentalnom zdravlju (18,19). Model nošenja sa stresom gleda na životinje kao na izvor socijalne podrške te kao takve one dovode do bolje adaptacije na stresore (20).

Prema teoriji biofilije ljudi imaju urođenu želju za povezanost s prirodom te su evolucijski predisponirani da obraćaju pozornost na životinjski svijet. Biofilija ne pretpostavlja ljubav prema životinjama već urođeni interes za druga živa bića kao nositelje informacije je li okolina u kojoj se nalazimo sigurna ili nije. Postoje dokazi da mirne, prijateljski nastrojene životinje imaju smirujuće učinke na ljudsko raspoloženje, dok kod agresivnih i nervoznih životinja dolazi do suprotnog učinka. Ovo ima dvije implikacije za terapiju uz pomoć životinje. Prva je da će djeca obraćati više pozornosti na životinju nego što bi na nekakvu igračku ili lutku. Druga je da će mirna i prijateljski nastrojena životinja prenijeti djetetu poruku da se nalazi na sigurnom mjestu. Obje implikacije su dobro potvrđene u istraživanjima (21,22).

## TERAPIJSKI PSI U DIJAGNOSTICI

Istraživanja koja se bave korištenjem pasa u dijagnostici bolesti kod ljudi porasla su u popularnosti u zadnjih nekoliko desetljeća. Iako se radi o relativno novom području, rezultati su pokazali da je pse moguće uspješno istrenirati da detektiraju prisutnost melanoma, raka

## THEORETICAL FRAMEWORK

There are several theories explaining the positive effects of interactions with animals on humans. One of them is the attachment theory, according to which relationships affect emotional welfare; studies have proven that people can develop a secure attachment with a therapy animal, creating positive and optimistic working models, thus contributing to self-confidence, good emotional regulation strategies, psychosocial functioning and mental health (18,19). The stress-coping model sees animals as a source of social support, which leads to a better adjustment to stressors (20).

According to the theory of biophilia, humans have an inborn wish to relate to nature and they are evolutionarily predisposed to pay attention to the world of animals. Biophilia does not mean love for animals but an innate interest for other living creatures as bearers of information, whether our environment is safe or not. There is proof that animals with a calm and friendly disposition have a calming effect on human moods, while aggressive and nervous animals have the opposite effect. This has two implications in animal-assisted therapy. The first is that children will pay more attention to an animal than to a toy or a doll. The second is that a calm and friendly animal will convey a message that the child is in a safe place. Both implications have been proven by research (21,22).

## THERAPY DOGS IN DIAGNOSTICS

Studies dealing with incorporating dogs in diagnosing diseases in humans have gained in popularity in the past decades. Despite the fact that this is a relatively new area of research, results have shown that dogs can be successfully trained to detect the presence of melanoma, prostate cancer, breast cancer, ovarian cancer, lung cancer and hypoglycaemia in humans (23,24) with similar or even higher precision

prostate, dojke, jajnika i pluća i hipoglikemije kod ljudi (23,24) sa sličnom ili čak većom preciznosti od standardnih dijagnostičkih metoda (25). Osim u dijagnostici same bolesti, psi se mogu istrenirati da uoče i upozore vlasnika na napadaje i naglo pogoršanje simptoma. U istraživanju s osobama koje pate od migrene, više od polovice ih je izjavilo da ih njihov pas ljubimac promjenom svog ponašanja upozori na nadolazeću migrenu oko dva sata prije početka prvih simptoma (26). Veliki porast istraživanja koja se bave psima sposobnim da detektiraju i upozore svog vlasnika na nadolazeći epileptični napadaj 15 do 45 minuta prije samog napada dokazala su uspješnost pasa u ovoj vrsti detekcije kao i veliki porast u kvaliteti života kod vlasnika tih pasa (27, 28).

Poznato je da psi koriste osjetila njuha i vida kako bi detektirali tjelesnu bolest ili nadolazeći napadaj kod vlasnika. Iako su istraživanja koja se bave korištenjem pasa u detekciji psihičkih poremećaja u samom začetku, nema razloga za vjerovati da te iste sposobnosti ne bismo mogli koristiti i kod detekcije psihičkih stanja vlasnika. Tako, na primjer, psi mogu namirisati „strah“ (to jest, kemikalije proizvedene u tijelu pod emocionalnim uvjetima straha) u znoju ljudi na što reagiraju stresnim ponašanjem kao i povišenim fiziološkim indikatorima stresa kao što je brzina otkucaja srca (29). Psi također reagiraju na ljutite izraze lica kod ljudi stresnim ponašanjem (lizanjem njuške) (30) te pokušavaju utješiti i vlasnike i nepoznate osobe koje se pretvaraju da plaču (31). Ova ponašanja mogu se objasniti fenomenom „emocionalne zaraze“ koja se može definirati kao automatsko i nesvjesno podudaranje emocionalnog stanja između dva individuum (32). Različita istraživanja su potvrdila da su psi iznimno osjetljivi na promjene raspoloženja kod ljudi te da u skladu s time mijenjaju svoja ponašanja (npr. 33,34). Ovi podaci jasno ukazuju da bi bilo moguće i korisno koristiti pse za detekciju emocionalnog stanja kod ljudi.

than that achieved by standard diagnostic methods (25). Apart for diagnostics, dogs can also be trained to recognise and warn their owners of the onset of seizures and a sudden deterioration of symptoms. In a study of people suffering from migraine, more than half of the participants stated that their pet dog warned them by changing its behaviour about two hours before the first signs of a migraine attack (26). A big increase in studies dealing with dogs capable of detecting and warning their owners about emerging seizures 15 to 45 minutes before the onset proved that dogs were successful in that kind of detection as well as in increasing the quality of life of their owners (27,28).

It is well-known that dogs use their senses of smell and sight in order to detect physical disease or an emerging attack in their owners. Although studies dealing with utilising dogs in detecting mental disorders are at its beginnings, there are reasons to believe that they could use their abilities in detecting psychological conditions of their owners. For instance, they can smell 'fear' (i.e. chemicals produced in our bodies when we are in fear) in the sweat of humans, to which they respond with stress behaviours as well as with elevated physiological indicators of stress, like heart rate (29). Dogs also respond to angry facial expressions in people with stress behaviours (licking their noses) (30) and they try to soothe their owners and unknown persons who pretend to be crying (31). These behaviours can be explained as the 'emotional infection' phenomenon defined as automatic and unconscious adjustment of emotional conditions between two individuals (32). Studies have confirmed that dogs are extremely sensitive to mood changes in humans and that they change their behaviours accordingly (e.g. 33,34). These data clearly indicate that it would be possible and useful to use dogs in detecting emotional conditions in humans.

Psychiatrists Gordon Parker and Rebecca Graham (35) asked their patients with mood disorder

Psihijatri Gordon Parker i Rebecca Graham (35) su tijekom godine dana ispitivali svoje pacijente s poremećajima raspoloženja o ponašanju njihovih pasa, te su ustanovili da većina pacijenata opisuje da kada se osjećaju depresivno njihov pas dodatno traži njihovu blizinu, inicira maženje ili čak leži na njima. Psi pacijenata s bipolarnim poremećajem također pokazuju takvo ponašanje kada su im vlasnici u depresivnoj fazi, dok u hipomaničnoj ili maničnoj fazi psi postaju oprezniji, zaigraniji i vrlo energični, kao da su se „zarazili“ raspoloženjem vlasnika. Ova opažanja postavljaju pitanje mogu li se psi istrenirati za otkrivanje ranih faza promjene raspoloženja kod poremećaja raspoloženja, kao što je već utvrđeno da mogu kod raznih tjelesnih bolesti. Kako pacijenti s bipolarnim poremećajem izjavljuju da često ne opaze prve znakove da ulaze u maničnu ili hipomaničnu fazu, trenirani pas pomagač bi ih mogao upozoriti na to i tako im omogućiti da naprave planove i pripreme se na promjenu.

## PSI U TERAPIJI

Istraživanja o brojnim prednostima koje prisutnost psa ima za ljude dovela su do razvoja različitih intervencija koje uključuju pse u različite ljudske aktivnosti s ciljem smanjenja stresa i povećanja motivacije. Sve su popularniji programi čitanja psima za djecu, programi posjete dječjih bolnica i staračkih domova s psima, šetnje s psima za hospitalizirane pacijente i razni drugi (1).

Što se tiče treniranih terapijskih pasa, način na koje će se inkorporirati u terapiju ovisi o samom terapeutu i specifičnoj populaciji klijenata, ali postoji širok raspon mogućih upotreba. Čak i terapije gdje pacijenti samo jednom provedu trideset minuta u prostoriji sa psom i njegovim vlasnikom, pri čemu mogu gladiti psa, igrati se s njime ili ispitivati vlasnika o psu, dovode do značajnog smanjenja anksioznosti kod pacijenata s psihotičnim

conders questions about their dogs' behaviours for a year. They found that most patients reported that when they were feeling depressed, their dogs required additional physical closeness, initiating stroking or even lying on them. Dogs owned by patients with bipolar disorders also showed such behaviours during their owners' depressive episodes, while they were more cautious, playful and very energetic during their owners' hypomanic or manic episodes, as if they were "infected" by their owners' moods. There is the question of whether dogs can be trained to detect early phases of mood changes in mood disorders, as it has already been proven in the case of physical diseases. A trained dog could warn its owner with bipolar disorder since patients themselves report that they often miss the first signs of an approaching hypomanic episode. That would help the patients plan and prepare for the change.

## DOGS IN THERAPY

Studies about the benefits of dogs' presence for humans led to a development of various interventions incorporating dogs in human activities with the aim of reducing stress and increasing motivation. Programmes for children involving reading to dogs, programmes of visiting children's hospitals and old people homes with dogs, walking with dogs for hospitalised patients, etc. are growing in popularity (1).

The method of incorporating therapy dogs in therapy depends on the therapist and the specific population of patients – there is a wide range of possible utilisations. Even therapies where patients spend 30 minutes with a dog and its owner in a single session when they can stroke the dog, play with it or question the owner about the dog lead to a significant reduction of anxiety in patients with psychotic disorders, mood disorders and other mental disorders. Moreover, the reduction of anxiety in patients with psychotic disorders was double



poremećajima, poremećajima raspoloženja i drugim psihičkim poremećajima, pri čemu je za pacijente s psihotičnim poremećajem to smanjenje bilo dvostruko veće nakon terapije uz pomoć životinje nego za pacijente koji su umjesto toga imali trideset minuta terapijske rekreacije (36).

Psi mogu imati i aktivniju ulogu u terapiji. Na primjer, djeca koja su doživjela traumatsko iskustvo mogu odlučiti žele li to iskustvo prvo ispričati psu. Već i sama mogućnost odabira kome i kako će ispričati što im se dogodilo daje djetetu veći osjećaj kontrole nad situacijom (37).

Neke od tehnika koje se mogu koristiti u terapiji uz pomoć životinja su: terapijska životinja može biti samo prisutna u prostoriji bez ikakve direktne intervencije, terapeut može komentirati odnos klijenta i životinje, ohrabrivati klijenta da gladi ili se igra s terapijskom životinjom, može tražiti od životinje da napravi neki trik ili pitati klijenta da to učini, može komentirati spontanost interakcije između klijenta i životinje, terapeut može klijentu dati informacije o životinji ili pričati priče ili metafore sa životinjama, može ohrabriti klijenta da smisli priču koja uključuje terapijsku životinju, može iskoristiti odnos između klijenta i životinje pitanjima poput „Da ti je ovaj pas najbolji prijatelj što bi to znao o tome što nitko drugi ne zna?“ ili „Reci Maxu (terapijskom psu) kako se osjećaš, a ja ću samo slušati.“, terapeut može ohrabriti klijenta da odglumi neki događaj koji se dogodio pri čemu terapijska životinja igra određenu ulogu, može smisliti neke strukturane aktivnosti s terapijskom životinjom ili pustiti životinji da spontano prilazi klijentu. Pri tome, većina terapeuta koristi kombinaciju više tehnika kako bi postigli specifične terapijske ciljeve (38).

Iako je dobrobit korištenja ovih tehnika u psihoterapiji dobro potvrđena u različitim istraživanjima, ostaje pitanje utjecaja životinje na procese relevantne za učinkovitu psihoterapiju.

the reduction in patients who had 30 minutes of therapeutic recreation instead (36).

Dogs can have a more active role in therapy. For example, children who had a traumatic experience may decide if they want to share it with the dog first. The very opportunity to choose to whom they will tell what has happened to them gives children a better feeling of control over the situation (37).

Some of the techniques which can be used in animal-assisted therapy are the following: the animal can only be present in the room without any direct interventions, the therapist can comment on the relationship between the patient and the animal, encourage the patient to stroke or play with the animal, can require that the animal performs a trick or ask the client to require that, can comment on the spontaneity of the interaction between the patient and the animal, give the patient information about the animal or tell stories or metaphors about animals, s/he can encourage the patient to create a story involving the therapy animal and can use the relationship between the patient and the animal by asking questions, e.g. “If this dog were your best friend, what would it know that nobody else knows?” or “Tell Max (the therapy dog) how you are feeling, and I will only be listening.” The therapist can encourage the patient to act out some event that happened before, with the animal acting some role, and s/he can also create some structured activities with the therapy animal or just let the animal spontaneously approach the patient. Most therapists use a combination of several techniques in order to achieve specific therapy goals (38).

Although the benefits of using these techniques in psychotherapy has been well-proven in various studies, the question about the influence of animals on the processes relevant for effective psychotherapy remains unanswered. Hunt and Chizkov (39) found that essays about the traumatic experience written by patients both with and without the presence of dogs were

Hunt i Chizkov (39) su potvrdile da se eseji o traumatskom iskustvu kod pacijenata koji su tekst pisali bez i uz prisustvo psa ne razlikuju u bitnim terapijskim procesima (negativna emocionalnost, kognitivni uvid i ozbiljnost traume), ali grupa koja je svoj esej pisala uz prisustvo psa pokazala je nižu razinu anksioznosti za vrijeme pisanja eseja i veće smanjenje depresivnih simptoma u kasnijem testiranju. Iz toga je vidljivo da psi mogu smanjiti akutni stres te olakšati dugoročni oporavak bez ugrožavanja terapijskih mehanizama.

## ZAKLJUČAK

Zadnjih godina sve više pažnje se pridodaje terapiji uz pomoć životinja, pogotovo pasa, i potencijalnom koristi koju takva vrsta terapije ima za pacijente. Iako se za prisustvo životinja smatralo da ima terapijski učinak te se preporučivalo kroničnim bolesnicima već u 19. stoljeću, a prvi moderni slučaj terapijske životinje u tretmanu je bio u 60-ima, ozbiljnija znanstvena istraživanja o učincima terapijskih životinja su se javila tek u zadnjih petnaestak godina (1).

Rezultati istraživanja navedenih u ovom radu jasno pokazuju da uključivanje terapijskih pasa u terapijski proces nosi sa sobom brojne dobrobiti i za odrasle pacijente kao i za djecu, kao što su smanjenje stresa i anksioznosti, smanjeni osjećaj usamljenosti, osjećaj povećane tjelesne i psihičke dobrobiti, smanjena potreba za lijekovima, poboljšana kvaliteta života, poboljšano fiziološko funkcioniranje (4), smanjenje simptoma traume (12, 13), smanjeno odustajanje od terapije i povećana razina sudjelovanja u grupnim terapijama (11), pri čemu se ne ometaju procesi relevantni za učinkovitu psihoterapiju (39). Također, postoje indikacije da psi mogu detektirati i reagirati na emocionalno stanje ljudi (30-34), što ih čini korisnima u detekciji emocionalnog distresa kao i početnih faza manije ili depresije (35).

not different in important therapeutic process (negative emotionality, cognitive insight and the severity of trauma). Still, the group writing essays with the presence of dogs showed a lower level of anxiety during essay writing and more decreased symptoms of depression in later testing. This shows that dogs can reduce acute stress and alleviate long-term recovery without interfering with therapy mechanisms.

## CONCLUSION

Animal assisted therapy, especially with therapy dogs and its potential benefits for patients, has been attracting increased attention in recent years. The presence of animals was considered therapeutic and was recommended to chronic patients as early as the 19th century, and the first case of therapy animal incorporated in treatment was recorded in the 60s, while more serious scientific studies into the effect of animal assisted therapy have been published only for the last 15 years (1).

The results of studies used in this paper clearly show that incorporating therapy dogs in the therapy process has benefits for both adult patients and children. These benefits include a reduction of stress and anxiety, reduced feelings of loneliness, a feeling of increased physical and psychological welfare, a reduced need for medication, an increased quality of life, improved physiological functioning (4), reduced symptoms of trauma (12,13), better adherence to therapy and an increased level of participation in group therapies (11), while at the same time not interfering with the processes which are relevant for effective psychotherapy (39). There are also indications that dogs can detect and respond to emotional states of humans (30-34), which makes them useful in detecting emotional distress and early phases of mania or depression (35).

We have seen an increase in the use of therapy dogs in Croatia in recent years. Hospitals and institutions, especially those working with

U zadnje vrijeme i u Hrvatskoj vidimo porast korištenja terapijskih pasa. Različite bolnice i ustanove, pogotovo one koje rade s djecom, počele su prepoznavati ove jedinstvene dobrobiti korištenja terapijskih pasa u radu s djecom. Centri za rehabilitacije su također počeli školo- vati pse u pomagačke i terapijske svrhe te čak nude mogućnost dodjeljivanja terapijskih pasa stručnom voditelju (osobi koja u svoj profesio- nalni rad uključuje terapijskog psa) te poduča- vanje voditelja osnovama brige i njege za psa (40).

Treba napomenuti da nisu svi psi pogodni za sudjelovanje u terapijama. Samo posebno trenirani psi prikladne naravi, zdravlja i ponaša- nja procijenjenih od strane veterinarskog ili animalnog bihevirologa mogu biti dio terapije uz pomoć životinja. Stručnjak koji koristi živo- tinju mora biti unaprijed upoznat sa životinjom te voditi računa o njenom zdravlju i dobrobi- ti za vrijeme i nakon terapije. Treba posebno obraćati pozornost na znakove stresa kod živo- tinje i paziti da se pacijenti (djeca i odrasli) ne ponašaju neprikladno prema životinji (npr. potežu rep ili uši, sjede na njoj) i time ugroža- vaju i sebe i životinju. Bitno je voditi računa i o osobinama pacijenta koje bi mogle biti kontra- indikacija za ovu vrstu terapije kao što su strah od pasa, alergija na pseću dlaku, određena reli- gijska ili kulturalna uvjerenja, mogućnost pri- jenosa infekcije za imunosupresivne pacijente i slično (1). Na kraju, dobrobit i pacijenta i tera- pijskog psa odgovornost je stručnjaka voditelja terapije koji mora osigurati ugodno okruženje za oboje kako bi mogao uspješno iskoristiti sve prednosti koje terapija uz pomoć životinja može pridonijeti terapijskom procesu.

children, have started recognising these unique benefits of incorporating therapy dogs when working with children. Rehabilitation centres have also started training dogs for service and therapy purposes and even provide possibilities of placing a therapy dog with a professional (a person who incorporates a dog in his/her pro- fessional work), while at the same time educat- ing the professional about the basics of taking care of the dog (40).

We need to mention that not all dogs are suit- able for participating in therapies, and only those of appropriate character, health and be- haviour, as assessed by a veterinary or animal behaviourist, can be incorporated in animal-as- sisted therapy. The professional assisted by an animal has to know the animal well and has to take care of its health and welfare during and after therapy. Special attention needs to be paid to the signs of stress in the animal and that the patients (both adults and children) behave ap- propriately towards the animal (e.g. so they do not pull their tail or ears or sit on the animal) in order not to put themselves and the animal in danger. It is important to take the character- istics of the patient in the account – there may be contraindications for this kind of therapy in case there is fear of dogs, allergy to dog hair, some religious or cultural beliefs, a possibility of infection for immunologically compromised patients or other similar reasons (1). Finally, the welfare of both the patient and the therapy dog is within the scope of responsibility of the professional therapist who needs to provide a pleasant environment for both in order to suc- cessfully utilise all the benefits animal-assisted therapy can bring to the process of therapy.

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